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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

NGUYEN, STEVE N

ART UNIT

PAPER NUMBER

2117

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/701,027	CASTLEBERRY ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	STEVE NGUYEN	2117	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,3-10 and 21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-10 and 21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 October 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

Claims 1, 3-10, and 21 are currently pending.

Applicant's arguments with respect to pending claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
1. Claims 1, 3, 6, 8-10, and 21 rejected under 35 U.S.C. 103(a) as being unpatentable over Colton et al (6,509,841; hereinafter referred to as Colton) in view of Minko (US Pat. 5,963,551).

Art Unit: 2117

As per claim 1:

Colton teaches a method for correcting data signal errors in a meter, comprising:

- receiving ordered data signals from the meter (Fig. 1; col. 4, lines 14-18).

Not explicitly disclosed by Colton is:

- analyzing the sequence of the ordered data signals to detect a missing signal by calculating a temporary variable based on a present data signal and a previous data signal in the sequence of ordered data signals; and
- compensating for the missing data signal by adding a predetermined value to a sequence counter.

However, Minko teaches analyzing the sequence of the ordered data signals to detect a missing signal (col. 7, lines 7-14); and compensating for the missing data signal by adding a predetermined value to a sequence counter (col. 7, lines 20-25 and 34-40; lost packets are compensated for by when the lost packets count shown in Fig. 3, element 310 exceeds a user-defined acceptance threshold as detailed in col. 8, lines 23-26. Thus, adding a value to the lost packets counter initiates the recovery process).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the wireless data transmission method of Minko for remote real-time monitoring of utility meters. This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized that Minko would have provided a reliable service that was dynamically adjustable (col. 8, lines 9-16) and could have been used for any appropriate communications channel (col. 2, lines 21-25).

Art Unit: 2117

Not explicitly disclosed by Minko is calculating a temporary 2-bit binary variable based on a present data signal and a previous data signal in the sequence of ordered data signals. However, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to calculate a temporary variable equal to the difference between a current packet index and a previous packet index for determining the difference as indicated by Minko in col. 7, lines 6-14.

One of ordinary skill in the art would have recognized that there had only been a finite number of identified predictable potential solutions for determining whether the difference between two numbers is equal to one. Therefore, a person of ordinary skill in the art at the time the invention was made could have pursued the known potential options to calculate the difference between the packet indexes of Minko using two's complement arithmetic.

The claim would have been obvious because a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.

As per claim 3:

Minko further teaches the method of claim 2, where values related to the previous data signal are stored in a status register (col. 7, lines 7-9).

As per claim 6:

Minko further teaches the method of claim 2 above, but does not explicitly state the variable is calculated by subtracting a binary value of the previous data signal from

Art Unit: 2117

a binary value of the present data signal. However, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to subtract a binary value of the previous data signal from a binary value of the present data signal since Minko explicitly suggests that a difference between the two values must be calculated (col. 7, lines 11-14).

As per claim 8:

Minko teaches the method of claim 1 above, where a missing data signal is detected by determining whether a binary state value for a present data signal is the same as a binary state value for a previous data signal (col. 7, lines 7-14).

As per claim 9:

Minko further teaches the method of claim 1, where the sequence counter counts up (col. 7, lines 12-14).

As per claim 10:

Colton and Minko teach the method of claim 1 above, but do not explicitly mention the sequence counter counts down. However, one of ordinary skill in the art at the time the invention was made would have realized that the counter of Minko is a means of sequentially keeping track of the lost packets, and that operating the counter inversely would have been functionally equivalent.

As per claim 21:

Colton teaches method for detecting errors in a meter, comprising:

- step for receiving a sequence of data signals of the meter (Fig. 1; col. 4, lines 14-18);

Art Unit: 2117

Not explicitly disclosed by Colton is:

- step for analyzing the sequence of data signals to detect a missing data signal by calculating a temporary variable based on a present data signal and a previous data signal in the sequence of ordered data signals; and
- step for compensating for a missing data signal by adding a predetermined value to a sequence counter.

However, Minko teaches analyzing the sequence of the ordered data signals to detect a missing signal (col. 7, lines 7-14); and compensating for the missing data signal by adding a predetermined value to a sequence counter (col. 7, lines 20-25 and 34-40; lost packets are compensated for by when the lost packets count shown in Fig. 3, element 310 exceeds a user-defined acceptance threshold as detailed in col. 8, lines 23-26. Thus, adding a value to the lost packets counter initiates the recovery process).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the wireless data transmission method of Minko for remote real-time monitoring of utility meters. This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized that Minko would have provided a reliable service that was dynamically adjustable (col. 8, lines 9-16) and could have been used for any appropriate communications channel (col. 2, lines 21-25).

Not explicitly disclosed by Minko is calculating a temporary 2-bit binary variable based on a present data signal and a previous data signal in the sequence of ordered data signals. However, it would have been obvious to a person of ordinary skill in the

Art Unit: 2117

art at the time the invention was made to calculate a temporary variable equal to the difference between a current packet index and a previous packet index for determining the difference as indicated by Minko in col. 7, lines 6-14.

One of ordinary skill in the art would have recognized that there had only been a finite number of identified predictable potential solutions for determining whether the difference between two numbers is equal to one. Therefore, a person of ordinary skill in the art at the time the invention was made could have pursued the known potential options to calculate the difference between the packet indexes of Minko using two's complement arithmetic.

The claim would have been obvious because a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.

2. Claim 7 rejected under 35 U.S.C. 103(a) as being unpatentable over Colton in view of Minko as applied above, and further in view of Ashida (US Pat. 4,538,119).

As per claim 7:

Colton and Minko teach the method of claim 6 above. Not explicitly disclosed is where the subtracting is done by adding the two's complement of the binary value of the previous data signal to the binary value of the present data signal. However, Ashida teaches that subtraction of binary data is performed using two's complement addition (col. 7, lines 6-8).



Art Unit: 2117

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use two's complement addition for subtracting the sequence indexes. This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized that subtraction of binary data is performed using two's complement addition, as disclosed by Ashida in col. 7, lines 6-8.

3. Claims 4 and 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Colton in view of Minko as applied above, and further in view of Omura (US Pat. 5,495,438).

As per claims 4 and 5:

Colton and Minko teach the method above. Not explicitly disclosed is a non-volatile ferro-electric random access memory component. Omura in an analogous art teaches a ferro-electric random access memory component (abstract).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to the memory of Omura in the system of Colton and Minko. This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized that the memory of Omura has a long life (col. 1, lines 62-65).

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEVE NGUYEN whose telephone number is (571)272-7214. The examiner can normally be reached on M-F, 10am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques Louis-Jacques can be reached on (571) 272-6962. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2117

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Cynthia Britt/  
Primary Examiner, Art Unit 2117

Steve Nguyen  
Examiner  
Art Unit 2117